

ABSTRACT OF DISCLOSURE

The present invention relates to the treatment of water using ozone, and more particularly to an ozone-based water purification system for use in animal houses and the like. In the embodiment described herein, the water treatment system comprises a main holding or contact tank, a relatively small re-circulation pump, an ozone generator, and an ozone injector. Normal operation of this water treatment system involves the receipt of raw or untreated water from a pressurized water main, such as that typically provided by a public water works system. This raw or untreated water is held in the contact tank at or near the pressure of the supplying water main. Actuation of the ozonation re-circulation loop causes water to be drawn from the contact tank by the re-circulation pump and passed through the adjacent venturi-type ozone injector. The pressure differential necessary for successful operation of the venturi injector is provided by the re-circulation pump and may be adjusted by a pressure regulator which is operably associated with the pump. As water is pumped through the venturi injector, an ozone-air mixture provided by the ozone generator is drawn into and mixed with the water passing therethrough. The ozonated stream of water is then circulated back into the contact tank, where it is subsequently mixed with the overall contents of the tank such that the ozone is relatively evenly distributed throughout the tank. Once the contents of the contact tank have been sufficiently purified or disinfected, treated water may be drawn from the tank and passed through a final mechanical filtration stage prior to end use of the water.